THE CARE AND REGULATION OF CHILDREN'S TEETH

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THE CARE AND REGULATION OF CHILDREN'S TEETH.

THE CARE AND REGULATION OF CHILDREN'S TEETH

BY

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PREFACE.

No apology is necessary for placing this little work before the general public. Those who have rightly come to the conclusion that the care and regulation of children's teeth is an important and serious subject will appreciate fully the value of the advice given; whilst others, who from carelessness, want of thought, neglect, or fear of putting their children to pain and inconvenience, will, it is hoped, consider seriously the necessity for the more careful supervision of and attention to the teeth of those for whose appearance, health, and strength (bodily and mentally) they are responsible. The author's experience has proved to him that it is absolutely necessary to the well-being, and in the interest, of future generations to induce the public to realise the importance of having regular and useful teeth. Unlike Americans, our education in this respect has been much neglected, and although the public are gradually recognising that the care of the teeth is a matter

of some importance, the English, as a people, have hardly yet fully appreciated the fact that sound teeth are not merely a luxury but an absolute necessity for the production and existence of a strong and healthy nation. A long experience of hospital as well as of ordinary private practice has convinced me that a vast amount of neglect exists, not only among the working classes, but also among the well-to-do, and it is not necessary to be over observant to notice cases where neglect in youth has resulted in permanent disfigurement and abnormality in the adult. The mouth is an important part of the human body and if neglected can completely spoil and disfigure an otherwise perfect face. It is necessary, therefore, that everyone should possess a knowledge of the uses, and properly appreciate the value, of sound and regular teeth. Not only are they of an æsthetic value, for pleasing smiles pass quite unnoticed if the teeth are decayed and irregular and on the other hand plain features are undoubtedly improved if the mouth and teeth are in good condition, but they play a most important part in aiding distinct and perfect articulation and are absolutely indispensable for thorough mastication and perfect digestion. It is only by regular and systematic

attention from the time of their first appearance that they can be kept in that perfect condition which can only be arrived at by thoughtful and conscientious parents who realize their grave responsibility in the matter. The unnecessary extraction of a tooth may lead to serious consequences and the fact that there are as many as thirty-two permanent teeth is no justification for the removal of one of them without the existence of some other cogent reason. The teeth vary in shape and are adapted for different functions. The incisors or front teeth are for prehension and cutting, the canines for tearing, and the molars and pre-molars for grinding and macerating the various foods. The loss of any one of them destroys to some extent their organization and the proper preparation of food prior to digestion.

The importance therefore of preserving every tooth both from decay and irregularity is obvious, and the author, by the aid of this little work, hopes to bring about a deeper interest in, and a greater desire for the welfare of future generations by inducing parents to pay more attention to their children's teeth.

55, *St. James's Street, London, S.W.*

CHAPTER I.

Parents, guardians, and teachers realise that a child's bodily health is just as important as its mental development, and they must admit that the prevention of a disease or deformity is a more satisfactory achievement than its cure.

This can be effected to a great extent by strict attention to the mouth and teeth from the earliest age. The adoption of such a course may and does necessarily involve an increased amount of care, but surely the result, namely, a child growing with a healthy body and a sound mind is worth all the added labour and anxiety. The mother who is healthy and capable of suckling her child and yet refuses to do so, is not only neglecting her duties, but may be the means of rearing an unhealthy and weakly being unpossessed of the power to resist the attacks of disease germs. Even in healthy bodies and mouths, pathogenic or disease-producing germs exist in great numbers: but they fail to produce their specific affections except under certain

conditions, and that is when the vitality of the organ which they attack is lowered.

Every mother therefore should do all that she possibly can to rear healthy children sufficiently strong to resist these attacks, and in most cases this can be thoroughly effected by proper care and attention.

Of course cases occur when either through weakness on the part of the mother or the child, or both, or from some unforeseen cause, artificial feeding has to be resorted to; but whatever means are adopted, it is most necessary to keep the child's mouth clean and healthy by sponging daily with boracic lotion or borax mixed with honey or glycerine. This is a preventative of thrush (*parasitic stomatitis*) which is so prevalent among artificially fed babies, and is caused by the use of feeding bottles, the tubes, etc., of which have not been kept clean and rendered aseptic. It is probably unnecessary to suggest that should it be found impossible to feed a child naturally, Allen and Hanbury's bottles, which are so readily cleansed and sterilised, should be used for the administration of artificial foods.

Starchy foods should never be given to a child until after its digestive organs have become

thoroughly developed and teething has set in, that is, after the eighth month.

It may seem out of place in a book on the care of children's teeth, to lay so much stress upon feeding, but it is an important factor, for the structure and health of the teeth depend upon it.

It must be borne in mind that the teeth commence to develop before a child is born, and in the first few years of life the greatest and most active development of the various tissues and organs is proceeding. Improper feeding, therefore, can readily produce disastrous results to the teeth, and also such complaints as rickets (a disease in which the bones and the teeth are attacked). The bones are rendered weak, retarded in growth, and typically marked. The teeth are sparse, tapering, bluish in colour, and notched. To a child suffering from this affection, steel wine and glycerine, or cod liver oil should be administered two or three times a day, whilst included in the diet should be minced raw beef covered with sugar (the sugar rendering it more palatable). Children affected by rickets are very prone to convulsions.

Great care should be exercised in the prevention of constipation or indigestion, as one of these disturbances is more often the cause of

convulsions than teething. Should irritation become excessive during teething, it may be soothed by gently rubbing the finger over the gums.

Mothers should be careful to avoid foods which are likely to upset them, and therefore the children.

In cleansing the teeth a very soft cloth and not a brush should be used until after the second year, and then only a soft brush until the teeth are fully developed. From an early age children should be taught to cleanse their mouths and teeth.

They should be taught *how* to use the brush, brushing not only from side to side, but also with a rotary upward and downward movement. Brushing merely from side to side will only cleanse the prominent portions of the teeth, leaving the interstices uncleansed. Not only is this the case, but the constant movement in one direction wears away portions of the teeth, and produces cavities known as "*abrasion cavities*." These are sometimes sensitive and often accompanied by recession of the gums. The posterior surfaces should be rendered clean by means of a tooth brush, the handle of which is bent at a convenient angle for the purpose. Brushing, however, is not all that is desirable, and this alone will not free the approximal surfaces from

the *débris* of food, &c. This must be removed either with the aid of a quill tooth pick, or better still, by passing floss silk between the teeth. So many brush the teeth simply with the idea of rendering the visible surfaces clean and do not think of the particles of food remaining between, which eventually putrify and create disease and decay.

Some form of tooth soap or powder is necessary for thorough cleanliness, and in the opinion of the author a tooth paste or soap is preferable to the usual powders, which are often gritty, and therefore more liable to lodge between the gums and the teeth, in this way producing irritation and recession of the gums. It is often the case that, although the teeth and mouth are conscientiously brushed and cleansed, the method of brushing and the tooth powder have been such that the roots of the teeth have become exposed by recession of the gums due to inflammatory trouble. Such teeth are often very sensitive to thermal changes, sweets, or acids.

I may here give a timely warning against the danger of some popular ideas. It is popularly supposed that tobacco ash or charcoal make good tooth powders. They should not be used, as not only do they wear away the enamel, etc., but they

also collect between the teeth and gums, giving rise to irritation. Camphorated chalk is an excellent and harmless medium for brushing the teeth as is also the following soap recommended by Marshall :—

℞		
	Precip. chalk	ʒ viii
	Pulv. orris root	ʒ iv
	Pulv. cinchona bark	ʒ iv
	Pulv. Castile soap	ʒ ij
	Bicarbonate of soda	ʒ j
	Oil of Gaultheria	f ʒ ss.
	Glycerol, q.s. to make a thick paste.	

Mix, pulverize, and sift the dry ingredients before adding the oil of Gaultheria and the glycerol.

For those who prefer a powder, however, the following prescription of Marshall's is to be recommended :—

℞		
	Precip. chalk	ʒ viii
	Pulv. orris root	ʒ iv
	Pulv. cinchona bark	ʒ iv
	Pulv. cinnamon	ʒ v
	Pulv. Castile soap	ʒ ij
	Pulv. white sugar	ʒ iv
	Oil of lemon	gtt. xx ;
	Oil of rose	gtt. ij.

Mix, pulverize, and sift through a fine hair sieve.

An excellent mouth wash for spongy and inflamed gums is :—

℞	Tinc. of myrrh	℥ iv
	Borax	℥ iv
	Rose water up to	℥ x

With a tooth powder or soap there should be no chemical action, such action being liable to affect the teeth adversely. The action should be merely mechanical. It should be borne in mind that friction is the most important item in brushing, for no matter what soap or powder is used it will be of little avail unless the teeth are scrubbed thoroughly and efficiently. The brush should not be too hard as it will then not be sufficiently elastic, nor too soft, since it will then be wanting in strength to fulfil its purpose. The smaller and more numerous the bristles, the better.

As a general mouth wash *Listerine* is to be preferred. It is pleasant and produces devitalisation of mouth bacteria in less than a minute.

The foregoing treatment for the prevention of decayed teeth is not the only treatment necessary. Periodical visits to the dentist should be made every six months for a thorough examination—scaling, cleaning, polishing, and if necessary the filling of any cavities present, or if judicious,

the extraction of abscessed teeth, teeth ulcerating through the gum, or teeth which are producing crowding or other abnormality.

The periodical scaling of the teeth is *most* important. The concretions known as tartar or salivary calculus, which are deposits of salts from the saliva upon the teeth, occur in all mouths. These concretions are more marked behind the lower incisor teeth and on the cheek sides of the upper molars. This is on account of the ducts of the glands from which the saliva is secreted opening at these positions. The deposits start at and under the gum margins, and give rise to slight but imperceptible inflammation. The deposits continue, and should they be allowed to remain, the irritation and inflammation increase, and are accompanied by absorption and recession of the gums from the teeth, absorption of the bony sockets, and gradual looseness and eventual loss of the teeth. These symptoms may also be accompanied by suppuration.

The deposits must therefore be occasionally removed by careful scaling, as it is impossible to remove them to any extent in any other way.

Healthy exercise and fresh air in combination with the systematic attention to the mouth and teeth are also important to perfect health.

CHAPTER II.

The twenty temporary teeth erupt after birth at the following approximate dates:—

Four central incisors between the 5th and 8th months.

Four lateral incisors between the 7th and 10th months.

Four first molars between the 12th and 16th months

Four canines between the 14th and 20th months.

Four second molars between the 20th and 32nd months.

The lower teeth of each series usually erupt before the upper. Between the eruption of each series there is also a lapse of time, for if the process were continuous death from exhaustion might result. In very many cases the process of teething is completed at the end of the second year.

Although in the majority of cases the teeth should be cut without much trouble it is a process which, when completed, produces relief in the minds of the parents because of the popular but mistaken belief that it is the primary cause of most of the disturbances from which children suffer during these two years. Whether it be the cause of or merely coincident with these troubles, it is often the case that the following disturbances accompany teething :—

Convulsions.
Irritability.
Restlessness.
Cough.
Indigestion.
Constipation.
Vomiting.
Skin Diseases (eczema, herpes, impetigo, erythema).
Increased or diminished secretion of urine.

Of these, convulsions may be due to teething, but this trouble is more often due to some disturbance of the stomach or intestines. The symptoms of convulsions are :—

Twitchings of the body and limbs.
Thumbs drawn into the palms.
Profuse perspiration.

Breathing difficult.
Pulse small and rapid.
Pupils dilated or contracted.
Retina insensible to light.
Sensation absent.
Coma. Sometimes death.

To temporarily relieve the child, immediate immersion in a hot bath should be resorted to, and if the fever be high a cold sponge may be applied to the head. Dr. Andrew Wilson prescribes a sedative consisting of 5 grains of bromide of potassium and 2 grains of chloral in a teaspoonful of water being given every fifteen minutes for 4 or 5 doses to a child a year old, or should the child be unable to swallow, an enema should be used. The injection should consist of ten grains of chloral dissolved in an ounce of warm water.

The author of this work does not suggest that a medical man should be dispensed with under such conditions, but that the above treatment be adopted if medical aid at the time be difficult to procure.

It is rarely that the gums of a child need lancing, but if difficulty in the eruption of the teeth be the cause of fits, a dental or general surgeon should be consulted, who will probably lose no time in making the necessary free

incisions and removing a portion of the gum from over the erupting tooth or teeth.

Teething powders, which contain mercury should not be used, their effect upon the structure of the teeth being detrimental.

Should indigestion be the cause, teaspoonful doses of ipecacuanha wine in warm water should be given every ten minutes until vomiting is produced.

For constipation an enema of warm soapy water (about half a pint) at 100° F. will prove very effective, but this treatment should only be adopted at rare intervals and under medical advice.

For the other troubles the family physician should be consulted, who will prescribe the necessary treatment. Parents should never neglect to have the disorders to which children are prone during teething attended to, in the hope that they will subside on the completion of the process.

It is advisable that parents should recognise the symptoms of teething and thereby be free from any alarm that might otherwise be occasioned through ignorance in this matter. The gums are seen to be hot, red, swollen, tense, shiny and sometimes painful. There is a

tendency on the part of the child, who is restless and irritable, to bite at any tangible object. There is an increase and dribbling of saliva, the temperature is higher than normal, and a peculiarity in this respect is that it is higher in the morning than in the evening. differing thus from ordinary fevers. It is this rise in temperature which is so alarming a sign to the uninitiated. A temperature of 104° F. however is often reached and where in an adult such a condition would be sufficient to occasion alarm, with a child it is of common occurrence and not nearly so serious.

With the cutting of the permanent teeth the symptoms are similar but not so marked. The child is stronger and more able to withstand the effects of the process. The approximate dates of their eruption are:

Four 1st molars	6th year
Two lower central incisors	7th „
Two upper central incisors	8th „
All the lateral incisors ...	9th „
Four 1st bicuspids or premolars	10th „
Four 2nd bicuspids or premolars	11th „
Four canines ...	11th-14th „

Four second molars ... 12th year
Four 3rd molars or wisdoms ... ... 17th-26th „

It is not usual that, with the eruption of any of these, there are other than ordinary simple symptoms. Sometimes, however, in connection with the eruption of the 3rd molar or wisdom, serious trouble arises. The process may be so difficult, due often to overcrowding and insufficiency of room, that, *trismus* (closure of the jaw) results. Such cases can often be anticipated and prevented by judicious treatment in early life.

On occasions the eruption of the permanent teeth will produce.

St. Vitus' dance (Chorea)
Ear ache (Otalgia)
Paralysis
Neuralgia
Epilepsy
Serious suppuration into the tissues of the neck (Ludovici angina).
Reflex tooth ache (Reflex odontalgia)

With respect to the last trouble, a patient will often complain of pain in a sound tooth when the trouble arises from either the eruption or decayed condition of another. This is due to

the intimate communication of the nerves with one another. This condition must be diagnosed accurately to prevent any error in treatment.

CHAPTER III.

One of the commonest results of neglect of the teeth in youth is permanent irregularity and consequent disfigurement. From an aesthetic standpoint the effect is disastrous and in most cases no one but the parents can possibly be to blame for this. I have often heard patients who suffered from such disfigurement, and who were at an age when treatment was out of the question, bemoaning the fact that something had not been done in their early life to prevent or at any rate mitigate the abnormality.

It behoves parents therefore, as has already been stated to have their children's mouths and teeth periodically examined. Their duty however does not rest here. Children should be taught the importance of the teeth both to health and appearance. In this way the work of the dentist is made easier by obtaining their co-operation. Without this, treatment is often useless, as

opposition from the patient will often render the desired result abortive.

The shape of a normal healthy arch should be that of a horse shoe, with the lines of the teeth converging towards the throat. In the present day this arch is comparatively rare and has given place to the

shaped arches.

The shaped arch is prevalent in people who have suffered from adenoids or enlarged tonsils. These affections prevent natural breathing through the nose, and in consequence breathing through the mouth. This causes a contraction of the muscles of the cheek and therefore pressure upon certain of the posterior teeth.

Very contracted arches are found in people who are physically and sometimes mentally deficient. They are, however, often the result of neglect in youth.

The shaped arch is in most cases due to the too early extraction of the temporary molar teeth. This allows the first permanent molars to erupt into a more anterior position than normal, thus closing up, to a great extent, the spaces intended for the bicuspids or premolars (the teeth lying directly behind the canines).

In this way these teeth, having no room to erupt into the normal line, are forced within it, so producing what is known as a saddle-shaped arch.

There are many other irregularities. Individual teeth may be irregular, lying within or without the arch, and cases have been recorded where teeth have erupted in most abnormal positions, such as through the chin. The whole jaw may, on the other hand, be involved. In this connection the most common irregularities are over development of the upper jaw (superior protrusion) and over development of the lower jaw (inferior protusion). The cause of either of these may be heredity or acquired. The child may have the peculiarities of the jaws of either or both the parents transmitted to it. For instance, it may inherit the large teeth of the father and the small jaws of the mother, in this way

producing a very crowded state of affairs. Other causes of over development of the upper jaw are the habits of thumb, toe, lip, and tongue sucking. Finger sucking is more often the cause of over development of the lower jaw.

A child who develops such habits as toe, thumb, and finger sucking can be broken of them by bandaging the organ so thickly that it is impossible to place it in the mouth, or painting it with something unpalatable and so creating disgust in the mind of the child.

Undue retention of the temporary teeth is often a cause of such irregularities as the above.

Under normal conditions the first teeth are absorbed and thrown off, so making room for the permanent, but if the pulp, or what is popularly, but wrongly, termed the nerve (the pulp consisting of blood vessels, cells, fibrous tissue, and nerve fibres) is dead, the temporary tooth does not undergo absorption and requires to be removed to prevent the succeeding tooth from erupting into an abnormal position.

As has already been pointed out the too early extraction of the temporary teeth produces disfigurement, whilst too early removal of the first permanent molars is just as fatal. In fact, a very large percentage of the irregularities

which occur are due to an indiscriminate use of the forceps in early life.

Dummy teats, which are so often used by mothers to soothe their offspring, will just as readily produce irregularity as thumb sucking, the soft developing bone giving way to the pressure and producing protrusion of both the jaw and the teeth.

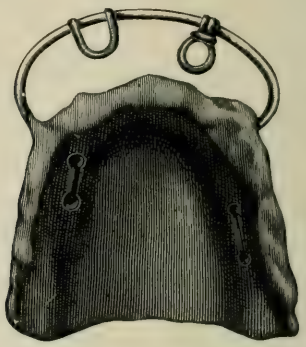
Although 32 is the number of the permanent teeth, it sometimes happens that supernumerary (above the normal number) teeth are developed. These, in most cases, produce crowding, and should be removed.

The author does not deem it necessary (in order to further impress upon the reader's mind the importance of attention to the teeth) to deal more extensively with the forms and causes of irregularities. Chapters and pages innumerable could be written upon the subject, but sufficient has been said for the purpose of this little work.

It now only remains for a few words of explanation concerning the modern treatment of irregularities, to be made. The old method of using plates created, both in the minds of parents and children, the idea that serious discomfort in mastication and articulation resulted. This idea was without doubt justified, as not

only were these effects produced, but also decay of the adjacent teeth and often distressing nausea.

Diagram of an old fashioned plate.



From "Litch's American System of Dentistry."

Under such conditions one cannot be surprised that so soon as it became possible the plate was dispensed with, and only reinserted at the command of the parent, or when about to undergo examination by the dental adviser, to be removed once more immediately attention was directed along some other channel.

The present method of using crowns, bands and wires without plates overcomes as far as is possible all reasonable objections.

The appliance is also in most cases a fixture, and *cannot be removed* at the will of the patient. This is an excellent advantage, and one which will appeal to most parents as it lessens to a great extent their anxiety as to whether the appliance is being conscientiously worn or on occasions only. By this method the desired result is also obtained more rapidly than with plates.

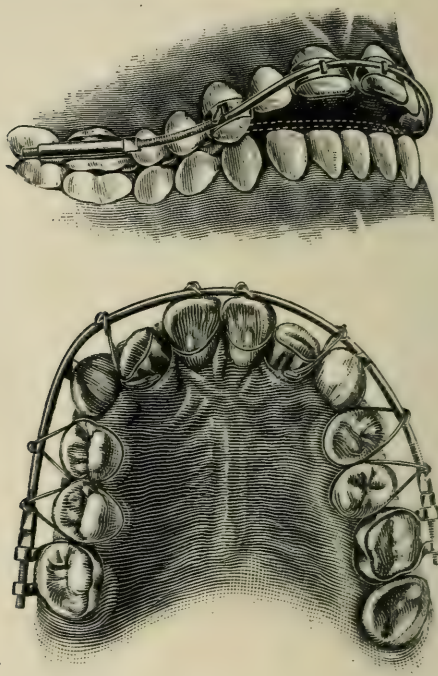
The best known method of regulating without plates is known as Angle's, but there are many modifications of it adopted by dentists.

Diagram of an Angle's appliance.

From Angle's system of regulating

A A represent the bands which are fitted to certain teeth to hold the regulating band or wire in position.

Diagrams showing method of attachment of appliance without plate.



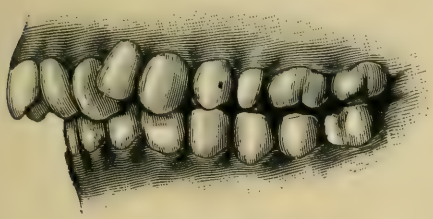
From Luken's system of regulating, showing the attachment of a Luken's appliance which is similar to Angle's

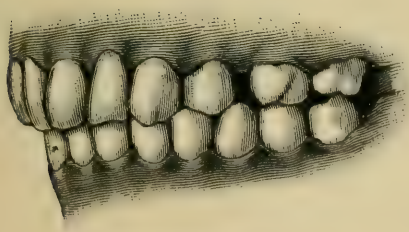
The foregoing explanatory diagrams give some idea of the method of treatment, whilst the following demonstrate the effects of that treatment.

Diagrams of cases.

The following explain a case where the age of the patient rendered ordinary treatment impossible. The improvement was effected by crowning several of the anterior teeth.

Before treatment

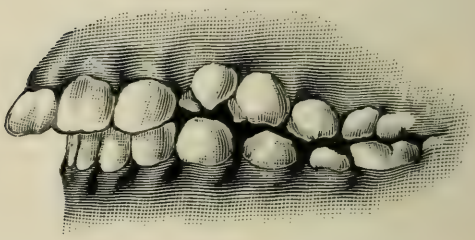


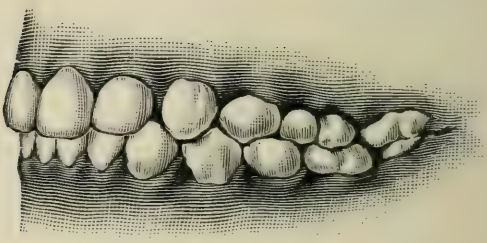


After treatment

These show a case of over-development of the upper jaw with protrusion of the upper teeth.

Before treatment

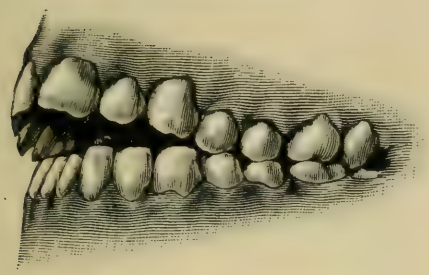




After treatment

A case of open bite causing much deformity.

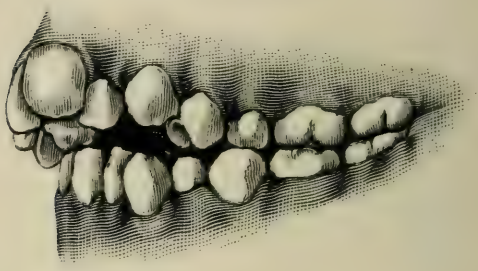
Before treatment

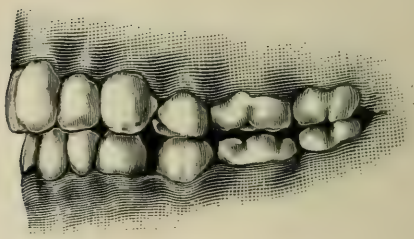


After treatment

A case of overcrowding and superior protrusion due to neglect in youth.

Before treatment

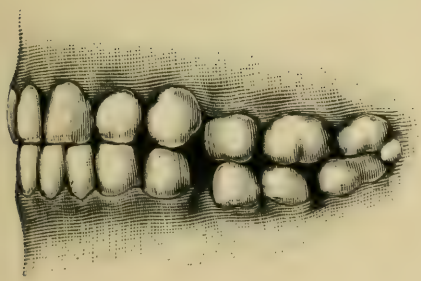




After treatment

A case of V-shaped arch treated in the same way as the foregoing cases.

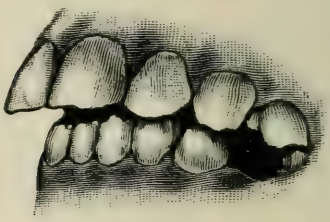
Before treatment

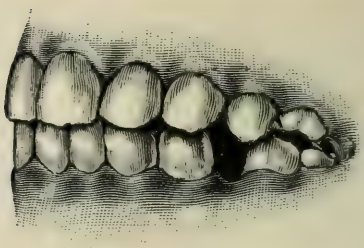


After treatment

Diagrams of a case of over-development of the upper jaw, and protrusion of the anterior teeth, the latter being due to the abnormally large teeth.

Before treatment





After treatment

Attention is particularly directed to the foregoing diagrams. These show cases of very marked irregularities which occurred in the author's practice. The upper diagram on each page explains the positions of the teeth and jaws

before treatment; and the lower, the alterations at the completion of, or during, the regulations.

The improvement in the facial expression and general appearance of the patients is marked.

In conclusion, the author trusts that his readers will pardon him for once more appealing to them to treat this subject, the care of children's teeth, with more seriousness than they may hitherto have done, and so aid in producing a healthier and stronger nation than can possibly be the case should it be neglected. If only a few out of the number who may happen to read these pages, are induced to follow the advice contained therein, this little work will then have achieved its purpose.

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